

Refine Search

Search Results -

Terms	Documents
zhang-jie.in.	266

Database:

US Pre-Grant Publication Full-Text Database
 US Patents Full-Text Database
 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

L17

Refine Search

Recall Text

Clear

Interrupt

Search History

DATE: Friday, April 13, 2007 [Purge Queries](#) [Printable Copy](#) [Create Case](#)

<u>Set</u> <u>Name</u> side by side	<u>Query</u>	<u>Hit</u> <u>Count</u>	<u>Set</u> <u>Name</u> result set
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
<u>L17</u>	zhang-jie.in.	266	<u>L17</u>
<u>L16</u>	ferguson-stephen-s.in.	9	<u>L16</u>
<u>L15</u>	caron-marc-g.in.	56	<u>L15</u>
<u>L14</u>	barak-lawrence-s.in.	18	<u>L14</u>
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
<u>L13</u>	L9 and l4	15	<u>L13</u>
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
<u>L12</u>	L9 and l4	59	<u>L12</u>
<u>L11</u>	L9 and l3	46	<u>L11</u>
<u>L10</u>	L9 and l2	125	<u>L10</u>
<u>L9</u>	green fluorescent protein	19142	<u>L9</u>
<u>L8</u>	L5 and l4	68	<u>L8</u>
<u>L7</u>	L5 and l3	49	<u>L7</u>

<u>L6</u>	L5 and l2	199	<u>L6</u>
<u>L5</u>	optically detectable or fluorescent or colorimetric or radioactive or electron-dense	455715	<u>L5</u>
<u>L4</u>	(beta-arrestin or beta arrestin) same (conjugate or chimera or chimeric or fusion)	74	<u>L4</u>
<u>L3</u>	(beta-arrestin or beta arrestin) with (conjugate or chimera or chimeric or fusion)	54	<u>L3</u>
<u>L2</u>	(beta-arrestin or beta arrestin) and (conjugate or chimera or chimeric or fusion)	224	<u>L2</u>
<u>L1</u>	beta-arrestin or beta arrestin	266	<u>L1</u>

END OF SEARCH HISTORY



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[Sign In] [Reg]

All Databases

PubMed

Nucleotide

Protein

Genome

Structure

OMIM

PMC

Journals

Bc

Search for

Limits

Preview/Index

History

Clipboard

Details

About Entrez

Text Version

Entrez PubMed

Overview

Help | FAQ

Tutorials

New/Noteworthy

E-Utilities

PubMed Services

Journals Database

MeSH Database

Single Citation Matcher

Batch Citation Matcher

Clinical Queries

Special Queries

LinkOut

My NCBI

Related Resources

Order Documents

NLM Mobile

NLM Catalog

NLM Gateway

TOXNET

Consumer Health

Clinical Alerts

ClinicalTrials.gov

PubMed Central

- Search History will be lost after eight hours of inactivity.
- Search numbers may not be continuous; all searches are represented.
- To save search indefinitely, click query # and select Save in My NCBI.
- To combine searches use #search, e.g., #2 AND #3 or click query # for more options.

Search	Most Recent Queries	Time	Result
#6	Search (green fluorescent protein) AND ("ARRB2" [TIAB] OR "ARRB-2" [TIAB] OR "ARRB 2" [TIAB] OR "ARB2" [TIAB] OR "ARB-2" [TIAB] OR "ARB 2" [TIAB] OR "ARR2" [TIAB] OR "ARR-2" [TIAB] OR "ARR 2" [TIAB] OR "Arrestin, beta 2" [TIAB] OR "Beta-arrestin-2" [TIAB] OR "DKFZp686L0365" [TIAB] OR "DKFZp-686-L-0365" [TIAB] OR "DKFZp 686 L 0365" [TIAB])	09:46:18	<u>26</u>
#5	Search electron dense AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:41	<u>0</u>
#4	Search (radioactive) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:25	<u>0</u>
#3	Search colorimetric AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:07	<u>0</u>
#2	Search (fluorescent) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:47	<u>26</u>
#1	Search (green fluorescent protein) AND	09:44:13	<u>22</u>

("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR
"ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-
1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB]
OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR
"Arrestin, beta 1" [TIAB] OR "Beta-arrestin-
1" [TIAB])

Clear History

[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Apr 4 2007 12:47:27



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[Sign In] [Reg]

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Bc

Search PubMed for electron dense AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB]) Preview Go C

Limits Preview/Index History Clipboard Details

About Entrez

Text Version

Entrez PubMed

Overview

Help | FAQ

Tutorials

New/Noteworthy

E-Utilities

PubMed Services

Journals Database

MeSH Database

Single Citation Matcher

Batch Citation Matcher

Clinical Queries

Special Queries

LinkOut

My NCBI

Related Resources

Order Documents

NLM Mobile

NLM Catalog

NLM Gateway

TOXNET

Consumer Health

Clinical Alerts


ClinicalTrials.gov

PubMed Central

- Search History will be lost after eight hours of inactivity.
- Search numbers may not be continuous; all searches are represented.
- To save search indefinitely, click query # and select Save in My NCBI.
- To combine searches use #search, e.g., #2 AND #3 or click query # for more options.

Search	Most Recent Queries	Time	Result
#5	Search electron dense AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:41	<u>0</u>
#4	Search (radioactive) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:25	<u>0</u>
#3	Search colorimetric AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:07	<u>0</u>
#2	Search (fluorescent) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:47	<u>26</u>
#1	Search (green fluorescent protein) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:13	<u>22</u>


Clear History


Symbol	Name	Synonyms	Or
 ARRB1	arrestin, beta 1	ARB1, ARR1, Arrestin, beta 1, Beta-arrestin-1	Hc
UniProt	P49407, Q2PP20, O75630		
OMIM	107940		
NCBI Gene	408		
NCBI RefSeq	NP_064647, more than 1,500 organisms. 80,000 genes. 12 million senten NP_004032 ...always up-to-date		
NCBI RefSeq	NM_004041, NM_020251		
NCBI UniGene	408		
NCBI Accession	AAA35559, BU594296		

Homologues of ARRB1 ...

Interaction information for ARRB1  ...Most recent information for ARRB1  ... **new**

Enhanced PubMed/Google query ...


These results suggest that **beta-arrestin**  recruited in response to receptor **phosphorylation** by different GRKs distinct functional potentials. [2005]


Low surface deposition and **endocytosis** are dependent on constitutive C-terminal **phosphorylation**, suggesting requirement for **beta-arrestin**  binding in receptor internalization. [2004]

In contrast, corresponding to its inability to cause mu OR internalization, morphine is unable to either elicit mu OR **phosphorylation** or stimulate **beta-arrestin**  **translocation**. [1998]

While both etorphine and morphine effectively activate the delta OR, only etorphine triggers robust delta OR **phosphorylation** followed by **plasma membrane translocation** of **beta-arrestin**  and receptor internalization.


Heterologous activation of protein kinase C stimulates **phosphorylation** of delta-opioid receptor at **serine 344**, re **beta-arrestin** - and clathrin-mediated receptor internalization. [2001]

Receptor mutants that lack any two **phosphorylation** sites retained their ability to recruit endogenous beta-arrest **cell membrane** and were normally sequestered, whereas **alanine** mutation of any three C-terminal **serine** residu abolished both **beta-arrestin**  binding and rapid agonist-induced internalization. [2002]


Determinants in the receptor's core (Asn-289 and Lys-382) appear to regulate internalization of the receptor/**beta arrestin**  complex toward early endocytic **endosomes** during the initial step of **endocytosis**. [2002]


After **angiotensin II** stimulation, both wild-type and **beta-arrestin**  mutants translocated to the **cell membrane**, recruitment was weaker for mutants of the hydrophobic face of helix I. [2005]


It also blocked **beta arrestin**  **translocation** and receptor **downregulation** induced by formyl-Nle-Leu-Phe. [20

These differences in mechanism of action are reflected in the **kinetics** of airway **smooth muscle** relaxation and bronchodilation in patients with asthma. beta-Adrenoceptor desensitization associated with beta2-agonist activation consequence of **phosphorylation** by beta-ARK and uncoupling of the receptor from Gs following **beta-arrestin**  of internalization and recycling of the receptor through processes of sequestration and resensitization and **downr** modulated by an effect on receptor **gene expression**. [1998]

To address this question, we investigated the ability of different muscarinic receptor dimers to recruit **beta-arresti** using both **co-immunoprecipitation** and **fluorescence** microscopy in **COS-7 cells**. [2005]

By **confocal microscopy**, we observed **beta-arrestin 1**  and 2, translocated to the **plasma membrane** and col with D2L and D2S receptors upon stimulation with **dopamine**, and this was followed by the **translocation** of rece **endocytic vesicles**. [2004]

Bioluminescence resonance **energy transfer** analysis revealed that both wild-type and **beta-arrestin**  mutant: a capacity to interact with the AT(1)R, although the interaction with the mutants was less stable. [2005]

For class B receptors (e.g. V2 **vasopressin** receptors), which recycle slowly, **beta-arrestin**  internalizes with th

into **endosomes**. [2003]

Nicotine induces **cell proliferation** by **beta-arrestin** ⚡-mediated activation of Src and Rb-Raf-1 pathways. [2006]
Although still capable of activating phospholipase C, this receptor loses almost completely the ability to recruit **beta-arrestin-1** ⚡ following **carbachol** stimulation in **COS-7 cells**. [2005]

Desensitization to low concentrations of **isoproterenol** (previously shown to be essentially protein kinase A-mediated, not receptor-specific, i.e. heterologous) was not affected by overexpression of either beta ARK or **beta-arrestin** ⚡.

Several GPCRs internalize as a stable complex with **beta-arrestin** ⚡ and the stability of this complex appears to be at least in part, whether the receptors are dephosphorylated in early **endosomes** and recycled back to the cell surface as fully functional receptors, retained in early **endosomes** or targeted for degradation in **lysosomes**. [2003]

Role of **beta-arrestin 1** ⚡ in the metastatic progression of **colorectal cancer**. [2006]

Furthermore, our data implicate a functional role for **beta-arrestin 1** ⚡ as a mediator of cellular migration and **metastasis**. [2006]

To our knowledge this is the first study demonstrating a defined molecular role of **beta-arrestin** [?] ⚡ with direct involvement in **cell growth** and cancer. [2005]

Using **in vitro** binding assays, we have identified two **glutamate** residues (Glu-849 and Glu-902) in beta(2)-adrenergic receptor important in **beta-arrestin** ⚡ binding. [2002]

Using receptor **mutagenesis**, we demonstrate that the ability of **beta-arrestin** ⚡ to remain associated with these receptors is mediated by specific clusters of **serine** and **threonine** residues located in the receptor carboxyl-terminal tail. [2002]

High levels of **beta-arrestin-1** ⚡ mRNA and immunoreactivity were found in peripheral blood **leukocytes**. [1993]

Using two cell types, human **endothelial cells** and **smooth muscle cells**, we found that 6-8-h treatments with the inducing agents cholera toxin, forskolin, iloprost, and **isoproterenol** raised **beta-arrestin-1** ⚡ mRNA by 2-4-fold.

The mean **beta-arrestin 1** ⚡ expression was unchanged in the **cytosol** of TTNs, in **membranes** and **cytosol** of TTNs, but decreased in the **membranes** of TTNs compared to their surrounding tissue. [2000]

These data suggest that **beta-arrestin** ⚡ binding, which terminates receptor-G protein coupling, also initiates a second wave of **signal transduction** in which the "desensitized" receptor functions as a critical structural component of a signaling complex. [1999]

Regulation of **tyrosine** kinase activation and granule release through **beta-arrestin** ⚡ by CXCR1. [2000]

ICI118551 and **propranolol** also promoted **beta-arrestin** ⚡ recruitment to the receptor. [2003]

Constitutive protease-activated receptor-2-mediated migration of MDA MB-231 **breast cancer** cells requires both **arrestin-1** ⚡ and -2. [2004]

In contrast, **beta-arrestin** ⚡ mutants displayed enhanced activity at desensitizing the **serotonin 5-hydroxytryptan** receptor. [2004]

The fusion protein of **beta-arrestin 1** ⚡ with **glutathione S-transferase** inhibits the beta(1)- and beta(2)AR-stimulated adenylyl cyclase activities, although inhibition of the beta(1)AR-stimulated activity requires a higher concentration of fusion protein than that of the beta(2)AR-stimulated activity. [2000]

Regulation of muscarinic **acetylcholine** receptor sequestration and function by **beta-arrestin** ⚡. [1999]

In conclusion, agonist-activated hPTH1-Rc internalization involves **beta-arrestin** ⚡ mobilization and targeting to **coated vesicles**. [1999]

Two alternatively spliced isoforms of human **beta-arrestin-1** ⚡, differing only in the presence or absence of 24 **base pairs**/8 amino acids within the sequence, were identified and called beta-arrestin-1A and beta-arrestin-1B, respectively. [1993]

Molecular analysis of human **beta-arrestin-1** ⚡: cloning, **tissue distribution**, and regulation of expression. Identification of two isoforms generated by **alternative splicing**. [1993]

The reduction in **beta-arrestin-1** ⚡ levels was significantly correlated with the severity of **depressive symptoms**.

The findings in human subjects support the implication of **beta-arrestin-1** ⚡ in the pathophysiology of **mood disorders**. [2004]

Mononuclear leukocytes of patients with depression showed significantly reduced immunoreactive quantities of **arrestin-1** ⚡. [2004]

RESULTS: **Beta-arrestin-1** ⚡ levels were significantly elevated by all three antidepressants in rat cortex and

hippocampus, while in the striatum no alterations could be detected. [2004]

METHOD: **Beta-arrestin-1** measurements were carried out in cortical, hippocampal, and striatal brain regions chronically intragastrically treated with either imipramine, desipramine, or **fluvoxamine**. [2004]

This **beta-arrestin**-mediated regulation of transcription appears to play important roles in **cell growth**, **apoptosis**, modulation of immune functions. [2007]

Among all **cell lines**, sequestration correlated best with the product of betaARK and **beta-arrestin** expression. Both beta ARK and **beta-arrestin** are members of **multigene families**. [1994]

The agonist-stimulated differential sorting of the mGlu(1) receptor and **beta-arrestin** as well as the activation of kinases by mGlu(1) agonist was confirmed in cultured cerebellar **Purkinje cells**. [2003]

Utilizing a low stringency hybridization technique to screen a rat brain **cDNA library**, we have now isolated cDNA representing two distinct **beta-arrestin**-like genes. [1992]

Addition of recombinant purified **beta-arrestin-1** mimicked human chorionic gonadotrophin to promote desensitization of human chorionic gonadotrophin-stimulated AC activity, in the presence of the ATP **phosphorylation** antagonist **2-imidodiphosphate**, with an ED50 of approximately 0.1 nM. [1999]

The localization of the alpha(1B)-ARs and AT(1A)Rs with **arginine** substitutions can be restored to the **plasma membrane** by either using selective antagonists or preventing the **endocytosis** of the **beta-arrestin**-receptor complexes.

Internalization of the ligand did not occur in **beta-arrestin**-deficient cells; was blocked or reversed by another ligand, **phenolamine**, indicating it to reflect binding to the orthosteric recognition site; and was prevented by blocking clathrin-mediated **endocytosis**. [2005]

Increased levels of an 87-kDa protein reactive with **glycoprotein** hormone R-reactive antibody, consistent with the R, coimmunoprecipitated with follicular membrane **beta-arrestin-1** in response to LH/CG R activation compared to unactivated R. [1999]

While AT(1A) receptor internalization could be inhibited by a dominant-negative **beta-arrestin 1** mutant (beta arr1 418), treatment with hyperosmotic **sucrose** to inhibit internalization did not abrogate the differences in arrestin association observed between the wild-type and mutant receptors, indicating that arrestin binding precedes, and is not dependent on, receptor internalization. [2001]

Of particular note are the recent findings regarding recruitment of cyclic nucleotide phosphodiesterase to **beta-arrestin** transfected HEK293 cells and in native **cardiac myocytes**. [2003]

Alteration of sites of **acylation** reduced internalization and prevented interactions with **beta-arrestin 1**-GFP. [2003]

In contrast, no change in the subcellular distribution of **adenylate cyclase** or **beta-arrestin 1** and 2 was observed

The identification of the ubiquitin-proteasome pathway and **beta-arrestin** as molecular targets of neurotoxicity is important to provide novel therapeutic strategies both for the treatment of **drug addiction** and the treatment of **neurodegenerative disorders**. [2006]

Our choice of screening platform was the Transfluor **beta-arrestin-green fluorescent protein translocation** assay. Full-length human orphan GPCRs were stably expressed in a U-2 OS cell background. [2006]

Please cite the use of iHOP as "Hoffmann, R., Valencia, A. A gene network for navigating the literature. Nature Genetics 36, 664 (2004)" and at <http://www.ihop-net.org/>.

Special thanks to Chris Sander for his continuing support.



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[\[Sign In\]](#) [\[Register\]](#)

[All Databases](#)[PubMed](#)[Nucleotide](#)[Protein](#)[Genome](#)[Structure](#)[OMIM](#)[PMC](#)[Journals](#)[Help](#)

Search for

[Limits](#)[Preview/Index](#)[History](#)[Clipboard](#)[Details](#)

Quoted phrase not found.

See [Details](#).

[About Entrez](#)[Text Version](#)

Display Show Sort by Send to

[Entrez PubMed](#)

All: 22 Review: 0

[Overview](#)[Help | FAQ](#)[Tutorials](#)[New/Noteworthy](#) [E-Utilities](#)

Items 1 - 20 of 22

Page of 2 [Next](#)

[PubMed Services](#)[Journals Database](#)[MeSH Database](#)[Single Citation Matcher](#)[Batch Citation Matcher](#)[Clinical Queries](#)[Special Queries](#)[LinkOut](#)[My NCBI](#)

- ☐ 1: [Vaughan DJ, Millman EE, Godines V, Friedman J, Tran TM, Dai W, Knoll BJ, Clark RB, Moore RH.](#) [Related Articles, Links](#)



Role of the G protein-coupled receptor kinase site serine cluster in beta2-adrenergic receptor internalization, desensitization, and beta-arrestin translocation.

J Biol Chem. 2006 Mar 17;281(11):7684-92. Epub 2006 Jan 3.

PMID: 16407241 [PubMed - indexed for MEDLINE]

- ☐ 2: [Dong J, Lai R, Jennings JL, Link AJ, Hinnebusch AG.](#) [Related Articles, Links](#)



The novel ATP-binding cassette protein ARB1 is a shuttling factor that stimulates 40S and 60S ribosome biogenesis.

Mol Cell Biol. 2005 Nov;25(22):9859-73.

PMID: 16260602 [PubMed - indexed for MEDLINE]

- ☐ 3: [Jones BW, Hinkle PM.](#) [Related Articles, Links](#)



Beta-arrestin mediates desensitization and internalization but does not affect dephosphorylation of the thyrotropin-releasing hormone receptor.

J Biol Chem. 2005 Nov 18;280(46):38346-54. Epub 2005 Sep 23.

PMID: 16183993 [PubMed - indexed for MEDLINE]

- ☐ 4: [Palmitessa A, Hess HA, Bany IA, Kim YM, Koelle MR, Benovic JL.](#) [Related Articles, Links](#)



Caenorhabditis elegans arrestin regulates neural G protein signaling and olfactory adaptation and recovery.

J Biol Chem. 2005 Jul 1;280(26):24649-62. Epub 2005 May 6.

PMID: 15878875 [PubMed - indexed for MEDLINE]

- ☐ 5: [Barnes WG, Reiter E, Violin JD, Ren XR, Milligan G, Lefkowitz RJ.](#) [Related Articles, Links](#)



beta-Arrestin 1 and Galphag/11 coordinately activate RhoA and stress fiber formation following receptor stimulation.

J Biol Chem. 2005 Mar 4;280(9):8041-50. Epub 2004 Dec 16.

PMID: 15611106 [PubMed - indexed for MEDLINE]

- ☐ 6: [Kule CE, Karoor V, Day JN, Thomas WG, Baker KM, Dinh D, Acker KA, Booz GW.](#) [Related Articles, Links](#)



Agonist-dependent internalization of the angiotensin II type one receptor (AT1): role of C-terminus phosphorylation in recruitment of beta-arrestins.

Regul Pept. 2004 Aug 15;120(1-3):141-8.
PMID: 15177932 [PubMed - indexed for MEDLINE]

- ☐ 7: [Roosterman D, Cottrell GS, Schmidlin F, Steinhoff M, Bunnett NW.](#) [Related Articles, Links](#)



Recycling and resensitization of the neurokinin 1 receptor. Influence of agonist concentration and Rab GTPases.

J Biol Chem. 2004 Jul 16;279(29):30670-9. Epub 2004 May 5.
PMID: 15128739 [PubMed - indexed for MEDLINE]

- ☐ 8: [Kim SJ, Kim MY, Lee EJ, Ahn YS, Baik JH.](#) [Related Articles, Links](#)



Distinct regulation of internalization and mitogen-activated protein kinase activation by two isoforms of the dopamine D2 receptor.

Mol Endocrinol. 2004 Mar;18(3):640-52. Epub 2003 Dec 18.
PMID: 14684845 [PubMed - indexed for MEDLINE]

- ☐ 9: [Richardson MD, Balius AM, Yamaguchi K, Freilich ER, Barak LS, Kwatra MM.](#) [Related Articles, Links](#)



Human substance P receptor lacking the C-terminal domain remains competent to desensitize and internalize.

J Neurochem. 2003 Feb;84(4):854-63.
PMID: 12562528 [PubMed - indexed for MEDLINE]

- ☐ 10: [Braun L, Christophe T, Boulay F.](#) [Related Articles, Links](#)



Phosphorylation of key serine residues is required for internalization of the complement 5a (C5a) anaphylatoxin receptor via a beta-arrestin, dynamin, and clathrin-dependent pathway.

J Biol Chem. 2003 Feb 7;278(6):4277-85. Epub 2002 Dec 2.
PMID: 12464600 [PubMed - indexed for MEDLINE]

- ☐ 11: [Hanyaloglu AC, Seeber RM, Kohout TA, Lefkowitz RJ, Eidne KA.](#) [Related Articles, Links](#)



Homo- and hetero-oligomerization of thyrotropin-releasing hormone (TRH) receptor subtypes. Differential regulation of beta-arrestins 1 and 2.

J Biol Chem. 2002 Dec 27;277(52):50422-30. Epub 2002 Oct 21.
PMID: 12393857 [PubMed - indexed for MEDLINE]

- ☐ 12: [Chalothorn D, McCune DF, Edelmann SE, Garcia-Cazarin ML, Tsujimoto G, Piascik MT.](#) [Related Articles, Links](#)



Differences in the cellular localization and agonist-mediated internalization properties of the alpha(1)-adrenoceptor subtypes.

Mol Pharmacol. 2002 May;61(5):1008-16.
PMID: 11961118 [PubMed - indexed for MEDLINE]

- ☐ 13: [Shiina T, Nagao T, Kurose H.](#) [Related Articles, Links](#)



Low affinity of beta1-adrenergic receptor for beta-arrestins explains the resistance to agonist-induced internalization.

Life Sci. 2001 Apr 6;68(19-20):2251-7.
PMID: 11358334 [PubMed - indexed for MEDLINE]

- ☐ 14: [Evans NA, Groarke DA, Warrack J, Greenwood CJ, Dodgson K, Milligan G, Wilson S.](#) [Related Articles, Links](#)



Visualizing differences in ligand-induced beta-arrestin-GFP interactions and trafficking between three recently characterized G protein-coupled receptors.

J Neurochem. 2001 Apr;77(2):476-85.

PMID: 11299310 [PubMed - indexed for MEDLINE]

- ☐ 15: [Groarke DA, Drmota T, Bahia DS, Evans NA, Wilson S, Milligan G.](#) [Related Articles, Links](#)



Analysis of the C-terminal tail of the rat thyrotropin-releasing hormone receptor-1 in interactions and cointernalization with beta-arrestin 1-green fluorescent protein.

Mol Pharmacol. 2001 Feb;59(2):375-85.

PMID: 11160875 [PubMed - indexed for MEDLINE]

- ☐ 16: [Shiina T, Kawasaki A, Nagao T, Kurose H.](#) [Related Articles, Links](#)



Interaction with beta-arrestin determines the difference in internalization behavior between beta1- and beta2-adrenergic receptors.

J Biol Chem. 2000 Sep 15;275(37):29082-90.

PMID: 10862778 [PubMed - indexed for MEDLINE]

- ☐ 17: [Bremnes T, Paasche JD, Mehllum A, Sandberg C, Bremnes B, Attramadal H.](#) [Related Articles, Links](#)



Regulation and intracellular trafficking pathways of the endothelin receptors.

J Biol Chem. 2000 Jun 9;275(23):17596-604.

PMID: 10747877 [PubMed - indexed for MEDLINE]

- ☐ 18: [Pierce KL, Maudsley S, Daaka Y, Luttrell LM, Lefkowitz RJ.](#) [Related Articles, Links](#)



Role of endocytosis in the activation of the extracellular signal-regulated kinase cascade by sequestering and nonsequestering G protein-coupled receptors.

Proc Natl Acad Sci U S A. 2000 Feb 15;97(4):1489-94.

PMID: 10677489 [PubMed - indexed for MEDLINE]

- ☐ 19: [Heding A, Vrecl M, Hanyaloglu AC, Sellar R, Taylor PL, Eidne KA.](#) [Related Articles, Links](#)



The rat gonadotropin-releasing hormone receptor internalizes via a beta-arrestin-independent, but dynamin-dependent, pathway: addition of a carboxyl-terminal tail confers beta-arrestin dependency.

Endocrinology. 2000 Jan;141(1):299-306.

PMID: 10614651 [PubMed - indexed for MEDLINE]

- ☐ 20: [Groarke DA, Wilson S, Krasel C, Milligan G.](#) [Related Articles, Links](#)



Visualization of agonist-induced association and trafficking of green fluorescent protein-tagged forms of both beta-arrestin-1 and the thyrotropin-releasing hormone receptor-1.

J Biol Chem. 1999 Aug 13;274(33):23263-9.

PMID: 10438501 [PubMed - indexed for MEDLINE]

Items 1 - 20 of 22

Page

1

of 2 Next

Display

Summary



Show

20



Sort by

Send to



[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Apr 4 2007 12:47:27



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[Sign In] [Re

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals

Search PubMed for (fluorescent) AND ("ARRB1" [TIAB] OR "ARRB-1" Go Clear Save S

Limits Preview/Index History Clipboard Details

Quoted phrase not found.

See Details.

About Entrez

Text Version

Entrez PubMed

Overview

Help | FAQ

Tutorials

New/Noteworthy E-Utilities

PubMed Services

Journals Database

MeSH Database

Single Citation Matcher

Batch Citation Matcher

Clinical Queries

Special Queries

LinkOut

My NCBI

Related Resources

Order Documents

NLM Mobile

NLM Catalog

NLM Gateway

TOXNET

Consumer Health

Clinical Alerts

ClinicalTrials.gov

PubMed Central

Display Summary Show 20 Sort by Send to

All: 26 Review: 0

Items 1 - 20 of 26

Page 1 of 2 Next

1: McLaughlin NJ, Banerjee A, Kelher MR, Gamboni-Robertson F, Hamiel C, Sheppard FR, Moore EE, Silliman CC. Related Articles, Links

Platelet-activating factor-induced clathrin-mediated endocytosis requires beta-arrestin-1 recruitment and activation of the p38 MAPK signalosome at the plasma membrane for actin bundle formation.
J Immunol. 2006 Jun 1;176(11):7039-50.
PMID: 16709866 [PubMed - indexed for MEDLINE]

2: Vaughan DJ, Millman EE, Godines V, Friedman J, Tran TM, Dai W, Knoll BJ, Clark RB, Moore RH. Related Articles, Links

Role of the G protein-coupled receptor kinase site serine cluster in beta2-adrenergic receptor internalization, desensitization, and beta-arrestin translocation.
J Biol Chem. 2006 Mar 17;281(11):7684-92. Epub 2006 Jan 3.
PMID: 16407241 [PubMed - indexed for MEDLINE]

3: Dong J, Lai R, Jennings JL, Link AJ, Hinnebusch AG. Related Articles, Links

The novel ATP-binding cassette protein ARB1 is a shuttling factor that stimulates 40S and 60S ribosome biogenesis.
Mol Cell Biol. 2005 Nov;25(22):9859-73.
PMID: 16260602 [PubMed - indexed for MEDLINE]

4: Jones BW, Hinkle PM. Related Articles, Links









Beta-arrestin mediates desensitization and internalization but does not affect dephosphorylation of the thyrotropin-releasing hormone receptor.
J Biol Chem. 2005 Nov 18;280(46):38346-54. Epub 2005 Sep 23.
PMID: 16183993 [PubMed - indexed for MEDLINE]

5: Palmitessa A, Hess HA, Bany IA, Kim YM, Koelle MR, Benovic JL. Related Articles, Links

Caenorhabditis elegans arrestin regulates neural G protein signaling and olfactory adaptation and recovery.
J Biol Chem. 2005 Jul 1;280(26):24649-62. Epub 2005 May 6.
PMID: 15878875 [PubMed - indexed for MEDLINE]

6: Barnes WG, Reiter E, Violin JD, Ren XR, Milligan G, Lefkowitz RJ. Related Articles, Links

beta-Arrestin 1 and Galphaq/11 coordinately activate RhoA and stress fiber

-  formation following receptor stimulation.
J Biol Chem. 2005 Mar 4;280(9):8041-50. Epub 2004 Dec 16.
PMID: 15611106 [PubMed - indexed for MEDLINE]
- ☐ 7: Kule CE, Karoor V, Day JN, Thomas WG, Baker KM, Dinh D, Acker KA, Booz GW. Related Articles, Links
Agonist-dependent internalization of the angiotensin II type one receptor (AT1): role of C-terminus phosphorylation in recruitment of beta-arrestins.
Regul Pept. 2004 Aug 15;120(1-3):141-8.
PMID: 15177932 [PubMed - indexed for MEDLINE]
- ☐ 8: Roosterman D, Cottrell GS, Schmidlin F, Steinhoff M, Bunnett NW. Related Articles, Links
 Recycling and resensitization of the neurokinin 1 receptor. Influence of agonist concentration and Rab GTPases.
J Biol Chem. 2004 Jul 16;279(29):30670-9. Epub 2004 May 5.
PMID: 15128739 [PubMed - indexed for MEDLINE]
- ☐ 9: Kim SJ, Kim MY, Lee EJ, Ahn YS, Baik JH. Related Articles, Links
 Distinct regulation of internalization and mitogen-activated protein kinase activation by two isoforms of the dopamine D2 receptor.
Mol Endocrinol. 2004 Mar;18(3):640-52. Epub 2003 Dec 18.
PMID: 14684845 [PubMed - indexed for MEDLINE]
- ☐ 10: Zimmer G, Rohn M, McGregor GP, Schemann M, Conzelmann KK, Herrler G. Related Articles, Links
 Virokinin, a bioactive peptide of the tachykinin family, is released from the fusion protein of bovine respiratory syncytial virus.
J Biol Chem. 2003 Nov 21;278(47):46854-61. Epub 2003 Sep 2.
PMID: 12952986 [PubMed - indexed for MEDLINE]
- ☐ 11: Richardson MD, Balias AM, Yamaguchi K, Freilich ER, Barak LS, Kwatra MM. Related Articles, Links
 Human substance P receptor lacking the C-terminal domain remains competent to desensitize and internalize.
J Neurochem. 2003 Feb;84(4):854-63.
PMID: 12562528 [PubMed - indexed for MEDLINE]
- ☐ 12: Braun L, Christophe T, Boulay F. Related Articles, Links
 Phosphorylation of key serine residues is required for internalization of the complement 5a (C5a) anaphylatoxin receptor via a beta-arrestin, dynamin, and clathrin-dependent pathway.
J Biol Chem. 2003 Feb 7;278(6):4277-85. Epub 2002 Dec 2.
PMID: 12464600 [PubMed - indexed for MEDLINE]
- ☐ 13: Hanyaloglu AC, Seeber RM, Kohout TA, Lefkowitz RJ, Eidne KA. Related Articles, Links
 Homo- and hetero-oligomerization of thyrotropin-releasing hormone (TRH) receptor subtypes. Differential regulation of beta-arrestins 1 and 2.
J Biol Chem. 2002 Dec 27;277(52):50422-30. Epub 2002 Oct 21.
PMID: 12393857 [PubMed - indexed for MEDLINE]
- ☐ 14: Chalothorn D, McCune DF, Edelmann SE, Garcia-Cazarin ML, Tsujimoto G, Piascik MT. Related Articles, Links
 Differences in the cellular localization and agonist-mediated internalization properties of the alpha(1)-adrenoceptor subtypes.

Mol Pharmacol. 2002 May;61(5):1008-16.
PMID: 11961118 [PubMed - indexed for MEDLINE]

- ☐ 15: [Shiina T, Nagao T, Kurose H.](#) [Related Articles, Links](#)



Low affinity of beta1-adrenergic receptor for beta-arrestins explains the resistance to agonist-induced internalization.

Life Sci. 2001 Apr 6;68(19-20):2251-7.
PMID: 11358334 [PubMed - indexed for MEDLINE]

- ☐ 16: [Evans NA, Groarke DA, Warrack J, Greenwood CJ, Dodgson K, Milligan G, Wilson S.](#) [Related Articles, Links](#)



Visualizing differences in ligand-induced beta-arrestin-GFP interactions and trafficking between three recently characterized G protein-coupled receptors.

J Neurochem. 2001 Apr;77(2):476-85.
PMID: 11299310 [PubMed - indexed for MEDLINE]

- ☐ 17: [Groarke DA, Drmota T, Bahia DS, Evans NA, Wilson S, Milligan G.](#) [Related Articles, Links](#)



Analysis of the C-terminal tail of the rat thyrotropin-releasing hormone receptor-1 in interactions and cointernalization with beta-arrestin 1-green fluorescent protein.

Mol Pharmacol. 2001 Feb;59(2):375-85.
PMID: 11160875 [PubMed - indexed for MEDLINE]

- ☐ 18: [Shiina T, Kawasaki A, Nagao T, Kurose H.](#) [Related Articles, Links](#)



Interaction with beta-arrestin determines the difference in internalization behavior between beta1- and beta2-adrenergic receptors.

J Biol Chem. 2000 Sep 15;275(37):29082-90.
PMID: 10862778 [PubMed - indexed for MEDLINE]

- ☐ 19: [Bremnes T, Paasche JD, Mehlum A, Sandberg C, Bremnes B, Attramadal H.](#) [Related Articles, Links](#)



Regulation and intracellular trafficking pathways of the endothelin receptors.

J Biol Chem. 2000 Jun 9;275(23):17596-604.
PMID: 10747877 [PubMed - indexed for MEDLINE]

- ☐ 20: [Pierce KL, Maudsley S, Daaka Y, Luttrell LM, Lefkowitz RJ.](#) [Related Articles, Links](#)



Role of endocytosis in the activation of the extracellular signal-regulated kinase cascade by sequestering and nonsequestering G protein-coupled receptors.

Proc Natl Acad Sci U S A. 2000 Feb 15;97(4):1489-94.
PMID: 10677489 [PubMed - indexed for MEDLINE]


Items 1 - 20 of 26

Page 1 of 2 Next

Display [Summary](#) Show [20](#) Sort by Send to

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
Department of Health & Human Services
[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Apr 4 2007 12:47:27




Symbol	Name	Synonyms	Or
 ARRB2	arrestin, beta 2	ARB2, ARR2, Arrestin, beta 2, Beta-arrestin-2, DKFZp686L0365	Hc
UniProt	P32121, Q59EM5, Q6ICT3		
OMIM	107941		
NCBI Gene	409		
NCBI RefSeq	NP_945355, NP_004304	more than 1,500 organisms. 80,000 genes. 12 million sentences ...always up-to-date	
NCBI RefSeq	NM_004313, NM_199004		
NCBI UniGene	409		
NCBI Accession	CR749218, CR591682		

Homologues of ARRB2 ...



Interaction information for ARRB2  ...

Most recent information for ARRB2  ... **new**









Enhanced PubMed/Google query ...

Moreover, stimulation of the angiotensin II type 1A receptor activated JNK3  and triggered the colocalization of arrestin 2  and active JNK3  to intracellular vesicles. [2000]



PTH-related protein analogs modified at position 1 induced selective stabilization of the active G protein-coupled receptor, resulting in lack of beta-arrestin-2  recruitment to the cell membrane, sustained cAMP signaling, absence of ligand-receptor complex internalization. [2002]




Angiotensin II type 1 receptors (AT1-Rs) are coupled to the contraction-mediating RhoA /Rho-kinase pathway. be desensitized by phosphorylation through G-protein-coupled receptor [?] kinases (GRKs) and binding of beta-arrestin-2 [?] . [2007]





These data suggest that beta-arrestin 2  can mediate chemotaxis through mechanisms which may be G-protein independent (Ang II receptors) or -dependent (LPA receptors). [2005]





Dishevelled 2 [?]  recruits beta-arrestin 2  to mediate Wnt5A-stimulated endocytosis of Frizzled 4 . [2000]
Endocytosis of Frizzled 4  (Fz4 ) in human embryonic kidney 293 cells was dependent on added Wnt5A protein. was accomplished by the multifunctional adaptor protein beta-arrestin 2  (betaarr2), which was recruited to Fz4  binding to phosphorylated Dvl2 [?] . [2003]


Beta-arrestin 2  mediates endocytosis of type III TGF-beta [?]  receptor and down-regulation of its signaling.




We identified c-Jun amino-terminal kinase 3 (JNK3 ) as a binding partner of beta-arrestin 2  using a yeast two-hybrid screen and by coimmunoprecipitation from mouse brain extracts or cotransfected COS-7 cells. [2000]

The role of beta-arrestin  was further confirmed by showing that transfection of beta-arrestin 2  in these kidney cells restored ICI118551 promoted ERK1 /2 activation. [2003]

Further experiments revealed that overexpression of beta-arrestin 2  enhanced the p53 [?] -mediated apoptosis, while suppression of endogenous beta-arrestin 2  expression by RNA interference technology considerably attenuated the p53 [?] -mediated apoptosis. [2003]

The increased beta-arrestin 2  expression in TTNs and the desensitization of the TSH receptor by beta-arrestin 2  in vitro suggest that the beta-arrestin 2  expression is cAMP dependent and that beta-arrestin 2  very likely deactivates the constitutively activated TSH receptor in toxic thyroid nodules. [2000]

Independent beta-arrestin 2  and G protein-mediated pathways for angiotensin II activation of extracellular signal-regulated kinases 1 and 2. [2003]

Activation of GPCRs led to formation of a ternary complex of Mdm2 [?] , beta-arrestin 2 , and GPCRs and then recruited Mdm2 [?]  to GPCRs at plasma membrane. [2003]

Beta-arrestin 2 -dependent angiotensin II type 1A receptor-mediated pathway of chemotaxis. [2005]

In parallel, stimulation of the wild-type angiotensin type 1A receptor with Ang II robustly stimulates ERK1 [?] ☆; with approximately 60% of the response blocked by the PKC inhibitor (G protein dependent) and the rest of the response blocked by depletion of cellular beta-arrestin 2 ☆ by small interfering RNA (beta-arrestin ☆ dependent). [2003]

We show in real time and in live human embryonic kidney (HEK-293) cells that a beta-arrestin-2 ☆-green fluorescent protein conjugate internalizes into endocytic vesicles with agonist-activated neurotensin-1 receptor, oxytocin receptor, angiotensin II type 1A receptor, and substance P receptor ☆. [2001]

This desensitization process coincides with a redistribution of GRK2 ☆ from the cytosol to the plasma membrane followed by a robust redistribution of beta-arrestin 2 ☆ and a profound change in cell morphology that occurs after SPR ☆ stimulation. [1999]

We find that two molecules interact with mammalian Smo in an activation-dependent manner: G protein-coupled kinase 2 ☆ (GRK2 ☆) leads to phosphorylation of Smo, and beta-arrestin 2 ☆ fused to green fluorescent protein interacts with Smo. [2004]

The glucagon-like peptide-2 receptor ☆ C terminus modulates beta-arrestin-2 ☆ association but is dispensable for ligand-induced desensitization, endocytosis, and G-protein-dependent effector activation. [2005]

This study has focused on enhancing the signal generated from the interaction between a G-protein-coupled receptor (GPCR [?]) and beta-arrestin 2 ☆ (beta-arr2), measured by the bioluminescence resonance energy transfer (BRET) technology. [2004]

MOR363D underwent slower internalization as reflected in the attenuation of membrane translocation of beta-arrestin 2 ☆ when compared with wild type MOR, but the level of receptor being internalized was similar to that of wild type MOR after 1 h of etorphine treatment. [2003]

Regulation of GRK 2 ☆ and 6, beta-arrestin-2 ☆ and associated proteins in the prefrontal cortex of drug-free and antidepressant drug-treated subjects with major depression. [2003]

In contrast, expression of beta-arrestin 1 ☆ and beta-arrestin 2 ☆ by osteoblastic cells varied between cell lines. Chromosome mapping of the human arrestin (SAG), beta-arrestin 2 ☆ (ARRB2 ☆), and beta-adrenergic receptor kinase 2 ☆ (ADRBK2 ☆) genes. [1994]

Conversely, suppression of beta-arrestin 1 ☆, but not beta-arrestin 2 ☆, expression by using RNA interference led to a 10-fold increase in tumor necrosis factor-stimulated NF-kappaB activity as measured by NF-kappaB mobility-shift analysis. [2004]

Surprisingly, although the truncated mutant receptors failed to interact with beta-arrestin-2 ☆, they underwent no desensitization and subsequent resensitization with kinetics similar to that observed with the wild-type GLP-2R ☆.

Co-expression of PAR1 [?] ☆ with beta-arrestin 1 ☆ (betaarr1) in COS-7 cells resulted in a marked inhibition of [?] ☆ signaling, whereas beta-arrestin 2 ☆ (betaarr2) was essentially inactive. [2004]

Of all the retinoid receptors, the RAR beta2 subtype showed the strongest sensitivity to beta-arrestin 2 ☆ action. Moreover, an agonist-mediated translocation of wild-type beta2AR and endogenous beta-arrestin 2 ☆ to endocytic vesicles prepared from CHO fibroblasts was observed. [1997]

In summary, contrary to data obtained for the beta2AR ☆, the constitutive activation of the TSHR ☆ does not influence desensitization and time course for internalization of the receptor, and in agreement with findings for the FSH and LH receptors, these results characterize the TSH receptor as a member of the class A of G protein-coupled receptors that have a higher affinity to beta-arrestin 2 ☆ than beta-arrestin 1 ☆ and do not colocalize with beta-arrestins in endosomes. [2006]

In the present study, we demonstrated that repeated s.c. treatment with etorphine, but not morphine, produced a dose-dependent increase in protein levels of G protein-coupled receptor kinase 2 ☆, dynamitin [?] II, beta-arrestin 2 ☆ and phosphorylated-conventional protein kinase C in membranes of the mouse spinal cord, suggesting that the etorphine-induced mu-opioid receptor desensitization may result from G protein-coupled receptor kinase 2 ☆/dynamitin II/ beta-arrestin2-dependent phosphorylation of mu-opioid receptors. [2006]

Gene-wide tests, adjusted for the number of SNPs analysed in each gene, identified associations with TPH2 ☆, MAO A, SYP, DAT1 ☆, ADRB2 ☆, HES1 ☆, MAOA ☆ and PNMT ☆. [2006]

Overexpression of either beta-arrestin 1 ☆ or beta-arrestin 2 ☆ led to marked inhibition of NF-kappaB activity, as measured by reporter gene activity. [2004]

In the present study, we have investigated the expression of the individual isoforms of beta-arrestin ☆ and of beta-actin in left ventricles from failing and control human hearts. mRNAs for all four proteins, beta-arrestin-1 ☆, beta-arrestin-2 ☆, beta-ARK-1 ☆, and beta-ARK-2 ☆, were identified in human heart. [1994]

Our data suggest that in cirrhosis-induced vasodilation, the AT1-R is desensitized by GRK-2 and beta-arrestin 2 and that changed patterns of phosphorylated Ca(2+) sensitizing proteins decrease Ca(2+) sensitivity. [2007]

Cell surface distribution and agonist-promoted internalization of receptors and recruitment of beta-arrestin 2 w unaffected by the loss of 187 glycosylation. [2004]

However, upon coexpression of arrestin-2 (beta-arrestin-1) or arrestin-3 (beta-arrestin-2), internalization of alpha2b AR was dramatically enhanced and redistribution of receptors to clathrin coated vesicles and endosome observed. [1999]

However, in the same cell lines under the same conditions, overexpression of beta-adrenergic receptor kinase beta-arrestin 2 accelerated the rate of DPDPE- but not DAMGO-induced receptor desensitization. [1999]

Here, we report that beta-arrestin 2 stimulates the transcriptional activation of the retinoid RAR and RXR receptors. [2006]

Using Xenopus laevis oocytes coexpressing mammalian mu-opioid receptors (MORs), beta-adrenergic receptor kinase beta-ARK2 [also called G protein-coupled receptor kinase (GRK3)], and beta-arrestin 2 (beta-arrestin 2) compared the rates of beta-ARK2 (GRK3)- and beta-arrestin 2-mediated homologous receptor desensitization produced by treatment with opioid agonists of different efficacies. [1998]

In the presence of C2 alone, CRIT associates with the adapter protein, beta-arrestin-2, and whether in association with C2 or not, then appears in the perinuclear region, but does not appear to be translocated into the nucleus.

Characterization of isoprenaline- and salmeterol-stimulated interactions between beta2-adrenoceptors and beta-arrestin 2 using beta-galactosidase complementation in C2C12 cells. [2005]

Isoprenaline, noradrenaline, and adrenaline (-log EC(50) = 5.9, 5.5, and 5.7, respectively) stimulated an association between the beta(2)-adrenoceptor and beta-arrestin 2 at much higher concentrations than required for activation of cAMP accumulation (-log EC(50) = 7.6, 6.3, and 7.7, respectively). [2005]

The results indicate that opiate addiction in humans (tolerant state) is associated with down-regulation of brain opioid receptors and regulatory GRK 2/6 and beta-arrestin-2 proteins. [2004]

G protein-coupled receptor kinases, beta-arrestin-2 and associated regulatory proteins in the human brain: postmortem changes, effect of age and subcellular distribution. [2002]

Although beta-arrestin 1 and beta-arrestin 2 are important for these effects induced by opioids with high in vivo efficacy such as etorphine and fentanyl, morphine tolerance may be mediated mainly via beta-arrestin 2. [2000]

4. The results suggest that VOL induces an increase in the expression of lymphocyte beta2-adrenoceptor-specific GRK and beta-arrestin 2 in association with an attenuation in beta2-adrenoceptor levels. [2002]

Studies in mice have shown that beta-arrestin-2 plays an important role in the development of morphine-induced tolerance, constipation, and respiratory depression. [2007]

Periaqueductal gray (PAG) is a potential structure where morphine produces its antinociception, but it is unclear whether beta-arrestin 2 plays its regulatory effect on morphine at PAG. [2006]

The genes for phosphatidylinositol transfer protein (PITPN), retinal guanylate cyclase (GUC2D), beta-arrestin 2 (ARRB2), pigment epithelium-derived factor (PEDF) and recoverin (RCV1) map to this region and are candidate genes for retinal disease. [1996]

In contrast, B1Rs, which are inducible and constitutively active, constitutively internalize without agonist via a clathrin-dependent pathway, do not recruit beta-arrestin 2, bind G protein-coupled receptor sorting protein, and target lysosomes for degradation. [2007]

Cotransfection of M3 cells with the c-Myc-tagged hMC2R and beta-arrestin-2-green fluorescence protein also revealed that beta-arrestin-2-green fluorescence protein and c-Myc-hMC2R were redistributed into similar intracellular vesicles through a clathrin-dependent, but caveolae-independent, process. [2006]

Possible association of beta-arrestin 2 gene with methamphetamine use disorder, but not schizophrenia. [2007]

Please cite the use of iHOP as "Hoffmann, R., Valencia, A. A gene network for navigating the literature. Nature Genetics 36, 664 (2004)" and at: <http://www.ihop-net.org/>.

Special thanks to Chris Sander for his continuing support.



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[Sign In] [Re

[All Databases](#)[PubMed](#)[Nucleotide](#)[Protein](#)[Genome](#)[Structure](#)[OMIM](#)[PMC](#)[Journals](#)

Search for

[Limits](#)[Preview/Index](#)[History](#)[Clipboard](#)[Details](#)

Quoted phrase not found.

See [Details](#).

[About Entrez](#)[Text Version](#)

Display Show Sort by Send to

[Entrez PubMed](#)

All: 26 Review: 0

[Overview](#)

Items 1 - 20 of 26

Page of 2 Next

[Help | FAQ](#)[Tutorials](#)[New/Noteworthy](#) [E-Utilities](#)[PubMed Services](#)[Journals Database](#)[MeSH Database](#)[Single Citation Matcher](#)[Batch Citation Matcher](#)[Clinical Queries](#)[Special Queries](#)[LinkOut](#)[My NCBI](#)[Related Resources](#)[Order Documents](#)[NLM Mobile](#)[NLM Catalog](#)[NLM Gateway](#)[TOXNET](#)[Consumer Health](#)[Clinical Alerts](#)[ClinicalTrials.gov](#)[PubMed Central](#)

- ☐ 1: [Cai M, Varga EV, Stankova M, Mayorov A, Perry JW, Yamamura HI, Trivedi D, Hruby VJ.](#) [Related Articles](#), [Links](#)

Cell signaling and trafficking of human melanocortin receptors in real time using two-photon fluorescence and confocal laser microscopy: differentiation of agonists and antagonists. *Chem Biol Drug Des.* 2006 Oct;68(4):183-93. PMID: 17105482 [PubMed - indexed for MEDLINE]

- ☐ 2: [Kilianova Z, Basora N, Kilian P, Payet MD, Gallo-Payet N.](#) [Related Articles](#), [Links](#)

Human melanocortin receptor 2 expression and functionality: effects of protein kinase A and protein kinase C on desensitization and internalization. *Endocrinology.* 2006 May;147(5):2325-37. Epub 2006 Feb 23. PMID: 16497811 [PubMed - indexed for MEDLINE]

- ☐ 3: [Jones BW, Hinkle PM.](#) [Related Articles](#), [Links](#)

Beta-arrestin mediates desensitization and internalization but does not affect dephosphorylation of the thyrotropin-releasing hormone receptor. *J Biol Chem.* 2005 Nov 18;280(46):38346-54. Epub 2005 Sep 23. PMID: 16183993 [PubMed - indexed for MEDLINE]










- ☐ 4: [Milasta S, Evans NA, Ormiston L, Wilson S, Lefkowitz RJ, Milligan G.](#) [Related Articles](#), [Links](#)

The sustainability of interactions between the orexin-1 receptor and beta-arrestin-2 is defined by a single C-terminal cluster of hydroxy amino acids and modulates the kinetics of ERK MAPK regulation. *Biochem J.* 2005 May 1;387(Pt 3):573-84. PMID: 15683363 [PubMed - indexed for MEDLINE]

- ☐ 5: [Chen W, Ren XR, Nelson CD, Barak LS, Chen JK, Beachy PA, de Sauvage F, Lefkowitz RJ.](#) [Related Articles](#), [Links](#)

Activity-dependent internalization of smoothened mediated by beta-arrestin 2 and GRK2. *Science.* 2004 Dec 24;306(5705):2257-60. PMID: 15618519 [PubMed - indexed for MEDLINE]

- ☐ 6: [Barnes WG, Reiter E, Violin JD, Ren XR, Milligan G, Lefkowitz RJ.](#) [Related Articles](#), [Links](#)

-  **beta-Arrestin 1 and Galphq/11 coordinately activate RhoA and stress fiber formation following receptor stimulation.**
J Biol Chem. 2005 Mar 4;280(9):8041-50. Epub 2004 Dec 16.
PMID: 15611106 [PubMed - indexed for MEDLINE]
- ☐ **7:** Jorgensen R, Martini L, Schwartz TW, Elling CE. Related Articles, Links
-  **Characterization of glucagon-like peptide-1 receptor beta-arrestin 2 interaction: a high-affinity receptor phenotype.**
Mol Endocrinol. 2005 Mar;19(3):812-23. Epub 2004 Nov 4.
PMID: 15528268 [PubMed - indexed for MEDLINE]
- ☐ **8:** Kule CE, Karoor V, Day JN, Thomas WG, Baker KM, Dinh D, Acker KA, Booz GW. Related Articles, Links
-  **Agonist-dependent internalization of the angiotensin II type one receptor (AT1): role of C-terminus phosphorylation in recruitment of beta-arrestins.**
Regul Pept. 2004 Aug 15;120(1-3):141-8.
PMID: 15177932 [PubMed - indexed for MEDLINE]
- ☐ **9:** Johnson EC, Bohn LM, Taghert PH. Related Articles, Links
-  **Drosophila CG8422 encodes a functional diuretic hormone receptor.**
J Exp Biol. 2004 Feb;207(Pt 5):743-8.
PMID: 14747406 [PubMed - indexed for MEDLINE]
- ☐ **10:** Kim SJ, Kim MY, Lee EJ, Ahn YS, Baik JH. Related Articles, Links
-  **Distinct regulation of internalization and mitogen-activated protein kinase activation by two isoforms of the dopamine D2 receptor.**
Mol Endocrinol. 2004 Mar;18(3):640-52. Epub 2003 Dec 18.
PMID: 14684845 [PubMed - indexed for MEDLINE]
- ☐ **11:** Chauvin S, Bencsik M, Bambino T, Nissenson RA. Related Articles, Links
-  **Parathyroid hormone receptor recycling: role of receptor dephosphorylation and beta-arrestin.**
Mol Endocrinol. 2002 Dec;16(12):2720-32.
PMID: 12456793 [PubMed - indexed for MEDLINE]
- ☐ **12:** Hanyaloglu AC, Seeber RM, Kohout TA, Lefkowitz RJ, Eidne KA. Related Articles, Links
-  **Homo- and hetero-oligomerization of thyrotropin-releasing hormone (TRH) receptor subtypes. Differential regulation of beta-arrestins 1 and 2.**
J Biol Chem. 2002 Dec 27;277(52):50422-30. Epub 2002 Oct 21.
PMID: 12393857 [PubMed - indexed for MEDLINE]
- ☐ **13:** Ahamed J, Haribabu B, Ali H. Related Articles, Links
-  **Cutting edge: Differential regulation of chemoattractant receptor-induced degranulation and chemokine production by receptor phosphorylation.**
J Immunol. 2001 Oct 1;167(7):3559-63.
PMID: 11564766 [PubMed - indexed for MEDLINE]
- ☐ **14:** Xie X, Zhao X, Liu Y, Zhang J, Matusik RJ, Slawin KM, Spencer DM. Related Articles, Links
-  **Adenovirus-mediated tissue-targeted expression of a caspase-9-based artificial death switch for the treatment of prostate cancer.**
Cancer Res. 2001 Sep 15;61(18):6795-804.
PMID: 11559553 [PubMed - indexed for MEDLINE]
- Penn RB, Pascual RM, Kim YM, Mundell SJ, Krymskaya VP,

☐ 15: [Panettieri RA Jr, Benovic JL.](#)

[Related Articles](#), [Links](#)



Arrestin specificity for G protein-coupled receptors in human airway smooth muscle.

J Biol Chem. 2001 Aug 31;276(35):32648-56. Epub 2001 Jun 20.

PMID: 11418617 [PubMed - indexed for MEDLINE]

☐ 16: [Shiina T, Nagao T, Kurose H.](#)

[Related Articles](#), [Links](#)



Low affinity of beta1-adrenergic receptor for beta-arrestins explains the resistance to agonist-induced internalization.

Life Sci. 2001 Apr 6;68(19-20):2251-7.

PMID: 11358334 [PubMed - indexed for MEDLINE]

☐ 17: [Evans NA, Groarke DA, Warrack J, Greenwood CJ, Dodgson K, Milligan G, Wilson S.](#) [Related Articles](#), [Links](#)



Visualizing differences in ligand-induced beta-arrestin-GFP interactions and trafficking between three recently characterized G protein-coupled receptors.

J Neurochem. 2001 Apr;77(2):476-85.

PMID: 11299310 [PubMed - indexed for MEDLINE]

☐ 18: [Oakley RH, Laporte SA, Holt JA, Barak LS, Caron MG.](#)

[Related Articles](#), [Links](#)



Molecular determinants underlying the formation of stable intracellular G protein-coupled receptor-beta-arrestin complexes after receptor endocytosis*.

J Biol Chem. 2001 Jun 1;276(22):19452-60. Epub 2001 Mar 9.

PMID: 11279203 [PubMed - indexed for MEDLINE]

☐ 19: [Luttrell LM, Roudabush FL, Choy EW, Miller WE, Field ME, Pierce KL, Lefkowitz RJ.](#) [Related Articles](#), [Links](#)



Activation and targeting of extracellular signal-regulated kinases by beta-arrestin scaffolds.

Proc Natl Acad Sci U S A. 2001 Feb 27;98(5):2449-54. Epub 2001 Feb 20.

PMID: 11226259 [PubMed - indexed for MEDLINE]

☐ 20: [Bhatnagar A, Willins DL, Gray JA, Woods J, Benovic JL, Roth BL.](#) [Related Articles](#), [Links](#)



The dynamin-dependent, arrestin-independent internalization of 5-hydroxytryptamine 2A (5-HT2A) serotonin receptors reveals differential sorting of arrestins and 5-HT2A receptors during endocytosis.

J Biol Chem. 2001 Mar 16;276(11):8269-77. Epub 2000 Nov 7.

PMID: 11069907 [PubMed - indexed for MEDLINE]

Items 1 - 20 of 26

Page

1

of 2 Next

Display

Summary

Show

20

Sort by

Send to

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
Department of Health & Human Services
[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Apr 4 2007 12:47:27